

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A light-emitting device comprising: ~~at least~~
a light-emitting layer on a substrate, ~~wherein; and~~
a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~
arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the light-
emitting layer, ~~[[the]]~~ a boundary between the substrate and ~~[[the]]~~ an exterior of the
substrate, ~~[[the]]~~ a boundary between the substrate and the light-emitting layer and ~~[[the]]~~ a
boundary between the light-emitting layer and the exterior of the substrate, wherein
the mode conversion means includes an unevenness which has a period to prohibit a
propagation of light in a waveguide mode.

Claim 2 (Currently Amended): A light-emitting device comprising: ~~at least~~
a light-emitting layer and one or more waveguide layers on a substrate, ~~wherein ; and~~
a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~
arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the light-
emitting layer, ~~[[the]]~~ an interior of the waveguide layer, ~~[[the]]~~ a boundary between the
substrate and ~~[[the]]~~ an exterior of the substrate, ~~[[the]]~~ a boundary between the substrate and
the light-emitting layer, ~~[[the]]~~ a boundary between the light-emitting layer and ~~[[the]]~~ an
exterior of the light-emitting layer, ~~[[the]]~~ a boundary between the substrate and the
waveguide layer, ~~[[the]]~~ a boundary between the light-emitting layer and the waveguide
layer, ~~[[the]]~~ a boundary between the waveguide layer and ~~[[the]]~~ an exterior of the
waveguide layer and ~~[[the]]~~ a boundary between the waveguide layer and the waveguide
layer, wherein

the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 3 (Currently Amended): An organic EL light-emitting device comprising: at least

a substrate including, arranged in this order on the substrate, a first electrode, an organic EL layer and a second electrode opposed to the first electrode, ~~arranged in that order on a substrate, wherein ; and~~

a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~ arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the first electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the second electrode, ~~[[the]]~~ a boundary between the substrate and ~~[[the]]~~ an exterior of the substrate, ~~[[the]]~~ a boundary between the substrate and the first electrode, ~~[[the]]~~ a boundary between the first electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the second electrode and ~~[[the]]~~ a boundary between the second electrode and the exterior of the second electrode, wherein

the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 4 (Currently Amended): The organic EL light-emitting device according to claim 3, wherein the second electrode is a transparent electrode, a thin film metal electrode or an electrode ~~comprised~~ comprised of a transparent electrode and a thin film metal arranged on ~~[[the]]~~ a side of the transparent electrode ~~nearest~~ nearest to the organic EL layer.

Claim 5 (Currently Amended): The organic EL light-emitting device according to claim 3, comprising an optical function layer having the mode conversion means for converting the waveguide mode to the radiation mode on ~~[[the]]~~ an outer surface of the substrate or ~~[[the]]~~ an outer surface of the second electrode.

Claim 6 (Currently Amended): An organic EL light-emitting device comprising: ~~at least~~

a substrate including, arranged in this order on the substrate, a first electrode, an organic EL layer and a second electrode opposed to the first electrode, ~~arranged in that order on a substrate, wherein ;~~

at least one waveguide layer ~~[[is]]~~ arranged on the substrate, ~~wherein ;~~ and

a mode conversion means for converting the waveguide mode to the radiation mode ~~[[is]]~~ arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the first electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the second electrode, ~~[[the]]~~ an interior of the waveguide layer, ~~[[the]]~~ a boundary between the substrate and ~~[[the]]~~ an exterior of the substrate, ~~[[the]]~~ a boundary between the substrate and the first electrode, ~~[[the]]~~ a boundary between the first electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the second electrode, ~~[[the]]~~ a boundary between the second electrode and ~~[[the]]~~ an exterior of the second electrode, ~~[[the]]~~ a boundary between the substrate and the waveguide layer, ~~[[the]]~~ a boundary between the first electrode and the waveguide layer, ~~[[the]]~~ a boundary between the organic EL layer and the waveguide layer, ~~[[the]]~~ a boundary between the second electrode and the waveguide layer, ~~[[the]]~~ a boundary between the waveguide layer and ~~[[the]]~~ an exterior of the waveguide layer and ~~[[the]]~~ a boundary between the waveguide layer and ~~[[the]]~~ another waveguide layer, wherein

the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 7 (Currently Amended): The organic EL light-emitting device according to claim 6, wherein the second electrode is a transparent electrode, a thin film metal electrode or an electrode ~~comprised~~ comprised of a transparent electrode and a thin film metal arranged on ~~[[the]]~~ a side of the transparent electrode ~~nearest~~ nearest to the organic EL layer.

Claim 8 (Currently Amended): An organic EL light-emitting device comprising: at least

a substrate including, arranged in this order on the substrate, a first electrode, an organic EL layer, a translucent second electrode opposed to the first electrode and a protective film, ~~arranged in that order on a substrate, wherein ; and~~

a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~ arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the first electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the second electrode, ~~[[the]]~~ an interior of the protective film, ~~[[the]]~~ a boundary between the substrate and ~~[[the]]~~ an exterior of the substrate, ~~[[the]]~~ a boundary between the substrate and the first electrode, ~~[[the]]~~ a boundary between the first electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the second electrode, ~~[[the]]~~ a boundary between the second electrode and the protective film, and ~~[[the]]~~ a boundary between the protective film and ~~[[the]]~~ an exterior of the protective film, wherein

the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 9 (Currently Amended): The organic EL light-emitting device according to claim 8, comprising an optical function layer having the mode conversion means for converting the waveguide mode to the radiation mode on ~~[[the]]~~ an outer surface of the substrate or ~~[[the]]~~ an outer surface of the protective film.

Claim 10 (Currently Amended): An organic EL light-emitting device comprising: at least

a substrate including, arranged in this order on the substrate, a first electrode, an organic EL layer, a translucent second electrode opposed to the first electrode and a protective film, ~~arranged in that order on a substrate, wherein ;~~

at least one waveguide layer ~~[[is]]~~ formed on the substrate ~~[[,]] ; and wherein~~

a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~ arranged in at least one of ~~[[the]]~~ an interior of the substrate, ~~[[the]]~~ an interior of the first electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the second electrode, ~~[[the]]~~ an interior of the protective film, ~~[[the]]~~ an interior of the waveguide layer, ~~[[the]]~~ a boundary between the substrate and ~~[[the]]~~ an exterior of the substrate, ~~[[the]]~~ a boundary between the substrate and the first electrode, ~~[[the]]~~ a boundary between the first electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the second electrode, ~~[[the]]~~ a boundary between the second electrode and the protective film, ~~[[the]]~~ a boundary between the protective film and ~~[[the]]~~ an exterior of the protective film, ~~[[the]]~~ a boundary between the substrate and the waveguide layer, ~~[[the]]~~ a boundary between the first electrode and the waveguide layer, ~~[[the]]~~ a boundary between the organic EL layer and the waveguide layer, ~~[[the]]~~ a boundary between the second electrode and the waveguide layer, ~~[[the]]~~ a boundary between the protective film and the waveguide layer, ~~[[the]]~~ a

boundary between the waveguide layer and ~~[[the]]~~ an exterior of the waveguide layer and ~~[[the]]~~ a boundary between the waveguide layer and ~~the~~ another waveguide layer, wherein
the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 11 (Currently Amended): An organic EL light-emitting device comprising: ~~at least~~

a transparent substrate including, arranged in this order on the substrate, a transparent electrode, an organic EL layer and a metal electrode opposed to the transparent electrode;
~~arranged in that order on a transparent substrate, wherein ;~~

a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~
arranged in at least one of ~~[[the]]~~ an interior of the transparent substrate, ~~[[the]]~~ an interior of the transparent electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the metal electrode, ~~[[the]]~~ a boundary between the transparent substrate and ~~[[the]]~~ an exterior of the transparent substrate, ~~[[the]]~~ a boundary between the transparent substrate and the transparent electrode, ~~[[the]]~~ a boundary between the transparent electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the metal electrode and ~~[[the]]~~ a boundary between the metal electrode and ~~[[the]]~~ an exterior of the metal electrode, wherein
the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 12 (Currently Amended): The organic EL light-emitting device according to claim 11, comprising an optical function layer having the mode conversion means for converting the waveguide mode to the radiation mode on ~~[[the]]~~ an outer surface of the transparent substrate or ~~[[the]]~~ an outer surface of the metal electrode.

Claim 13 (Currently Amended): An organic EL light-emitting device comprising: ~~at least~~

a transparent substrate including, arranged in this order on the substrate, a transparent electrode, an organic EL layer and a metal electrode opposed to the transparent electrode, ~~arranged in that order on a transparent substrate, wherein ;~~

at least one waveguide layer ~~[[is]]~~ formed on the transparent substrate ~~[[,]] ; and wherein~~

a mode conversion means for converting a waveguide mode to a radiation mode ~~[[is]]~~ arranged in at least one of ~~[[the]]~~ an interior of the transparent substrate, ~~[[the]]~~ an interior of the transparent electrode, ~~[[the]]~~ an interior of the organic EL layer, ~~[[the]]~~ an interior of the metal electrode, ~~[[the]]~~ a boundary between the transparent substrate and ~~[[the]]~~ an exterior of the transparent substrate, ~~[[the]]~~ a boundary between the transparent substrate and the transparent electrode, ~~[[the]]~~ a boundary between the transparent electrode and the organic EL layer, ~~[[the]]~~ a boundary between the organic EL layer and the metal electrode, ~~[[the]]~~ a boundary between the metal electrode and ~~[[the]]~~ an exterior of the metal electrode, ~~[[the]]~~ a boundary between the transparent substrate and the waveguide layer, ~~[[the]]~~ a boundary between the transparent electrode and the waveguide layer, ~~[[the]]~~ a boundary between the organic EL layer and the waveguide layer, ~~[[the]]~~ a boundary between the metal electrode and the waveguide layer, ~~[[the]]~~ a boundary between the waveguide layer and ~~[[the]]~~ an exterior of the waveguide layer and ~~[[the]]~~ a boundary between the waveguide layer and ~~[[the]]~~ another waveguide layer, wherein

the mode conversion means includes an unevenness which has a period to prohibit a propagation of light in a waveguide mode.

Claim 14 (Currently Amended): An organic EL light-emitting device according to any one of claims 3 to 13, wherein the mode conversion means is an optical structure having a regularity of a refractive index distribution in a one-dimensional, two-dimensional or three-dimensional direction.

Claim 15 (Original): The organic EL light-emitting device according to claim 14, wherein the regularity is a period of an effective wavelength degree of the light emitted from the organic EL layer.

Claim 16 (Currently Amended): The organic EL light-emitting device according to claim 14, comprising two or more mode conversion means having the regularity of [[the]] a same period.

Claim 17 (Original): The organic EL light-emitting device according to claim 14, wherein the regularity has a fluctuation of not more than one fourth of the period of an effective wavelength degree of the light emitted from the organic EL layer.

Claim 18 (Original): The organic EL light-emitting device according to claim 17, wherein the mode conversion means has at least two optical structures with the regularity of the refractive index distribution in the two-dimensional direction, and the regularity of the optical structures has a different period within the fluctuation range for each optical structure.

Claim 19 (Original): The organic EL light-emitting device according to claim 18, wherein the two or more optical structures are formed in the same two-dimensional plane.

Claim 20 (Original): The organic EL light-emitting device according to claim 14, wherein the regularity is such that a period of an effective wavelength degree of the light emitted from the organic EL layer coexists with a fluctuation of not more than one fourth of the period of the effective wavelength degree.

Claim 21 (Original): The organic EL light-emitting device according to claim 14, wherein the period of the regularity changes gradually.

Claim 22 (Original): The organic EL light-emitting device according to claim 14, wherein the regularity of the refractive index distribution in the two-dimensional direction is a tetragonal lattice arrangement, a triangular lattice arrangement, a honeycomb lattice arrangement, an arrangement which can fill up a plane with a finite number of unit elements or any combination thereof.

Claim 23 (Currently Amended): The organic EL light-emitting device according to claim 14, wherein the regularity of the refractive index distribution is formed of a material having a higher refractive index than a material lacking the regularity ~~of~~ of the refractive index distribution.

Claim 24 (Original): The organic EL light-emitting device according to claim 23, wherein the material having a high refractive index is transparent to the light emitted from the organic EL layer.

Claim 25 (Original): The organic EL light-emitting device according to claim 14, wherein the regularity of the refractive index distribution is formed of a material having a

lower refractive index than a material lacking the regularity of the refractive index distribution.

Claim 26 (Original): The organic EL light-emitting device according to claim 25, wherein the material having a low refractive index is transparent to the light emitted from the organic EL layer.

Claim 27 (Original): The organic EL light-emitting device according to claim 25, wherein the material having a low refractive index is a gas.

Claim 28 (Original): The organic EL light-emitting device according to claim 27, wherein the gas is an air or an inert gas.

Claim 29 (Currently Amended): The organic EL light-emitting device according to claim 14, wherein the optical structure ~~arranged in the boundary between the substrate and the exterior of the substrate, the boundary between the substrate and the first electrode, the boundary between the first electrode and the organic EL layer, the boundary between the organic EL layer and the second electrode and the boundary between the second electrode and the exterior of the second electrode~~ is formed of an unevenness of ~~[[the]]~~ a boundary having the regularity in the one-dimensional or two-dimensional direction.

Claims 30-32 (Canceled).

Claim 33 (Original): The organic EL light-emitting device according to claim 14, wherein the organic EL layer has a different emitted light wavelength depending on area.

Claim 34 (Original): The organic EL light-emitting device according to claim 33, wherein the conversion means is the optical structure having the regularity of the refractive index distribution in the one-dimensional, two-dimensional or three-dimensional direction corresponding to the different emitted light wavelength.